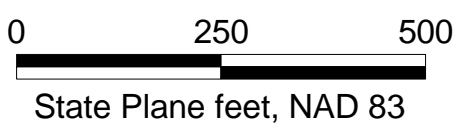


Figure 1-6

July 1944 Aerial Photograph, Range 18, Parcel 74Q



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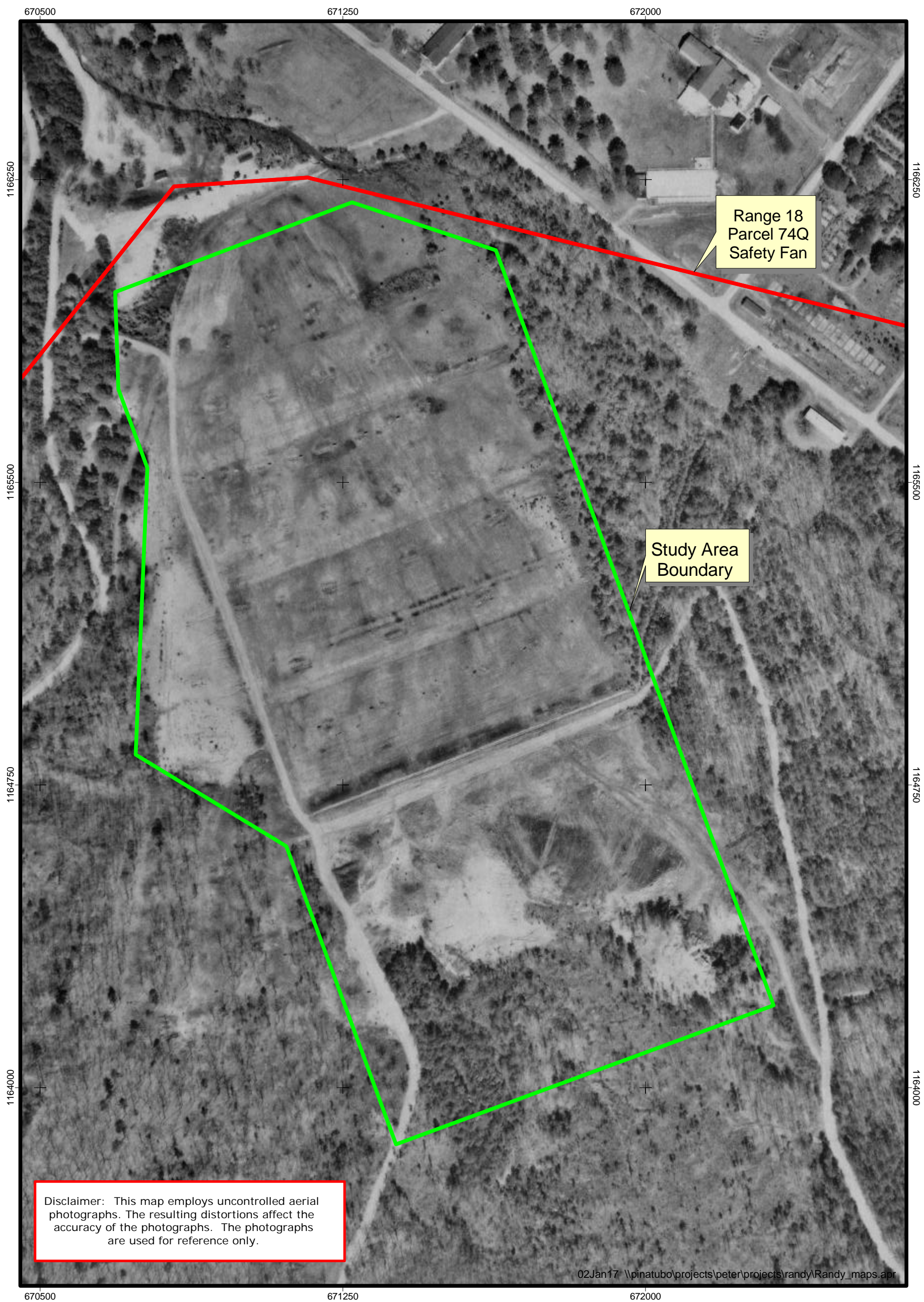
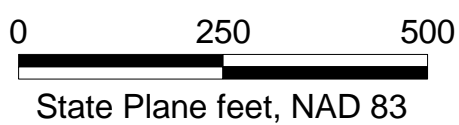


Figure 1-7

March 1973 Aerial Photograph, Range 18, Parcel 74Q



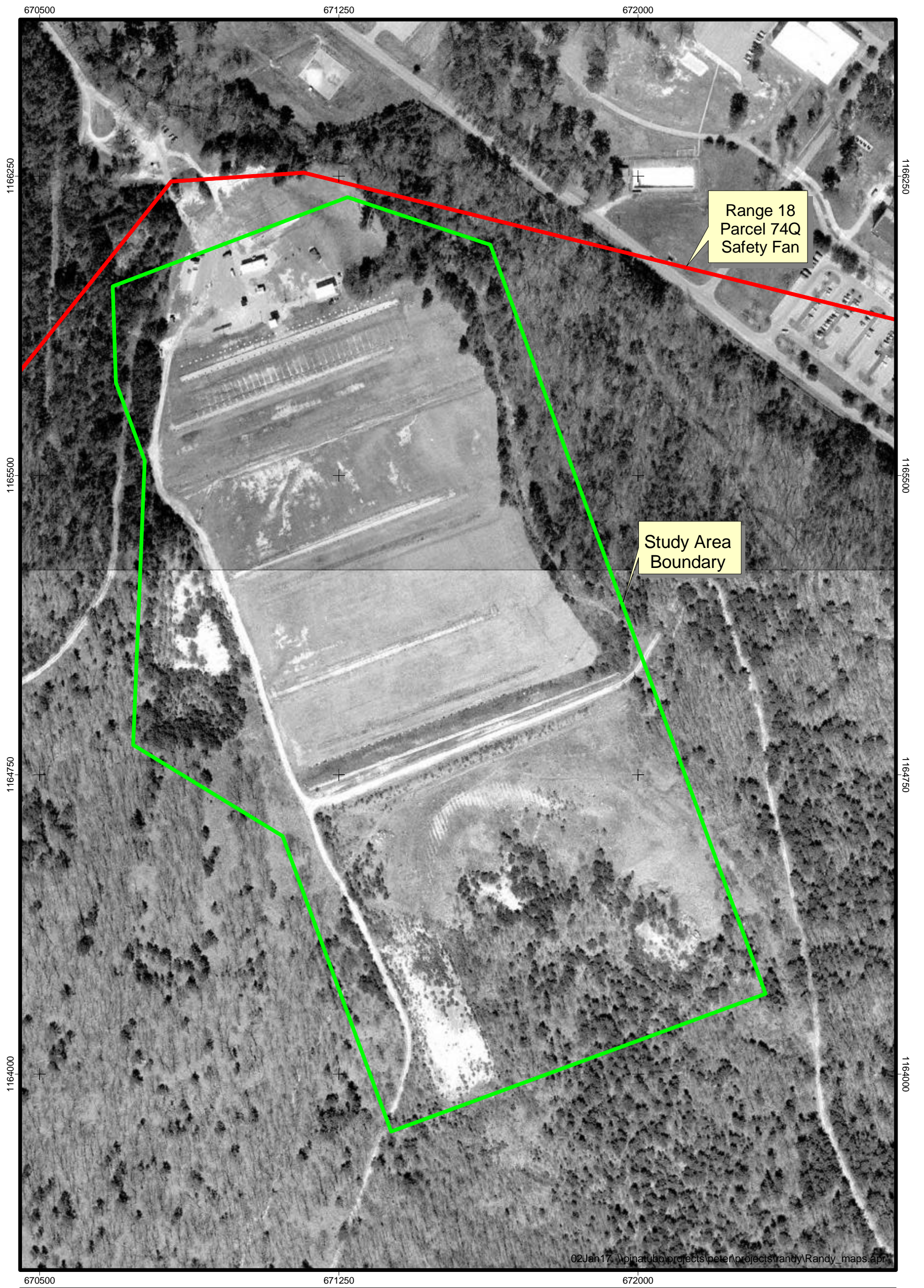
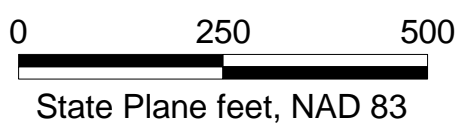


Figure 1-8

March 1998 Aerial Photograph, Range 18, Parcel 74Q



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western side. Additional visual surveys and sampling will be conducted to better define the extent of impact zone in this area.

For the purposes of this EE/CA investigation, the study area where range firing line, target lines, and impact zone are located is approximately 53.4 acres. The range safety fan (Figure 1-4) extends to the south covering an area of approximately 3,304 acres.

An unimproved road connects this area to Iron Mountain Road (east of the parcel) and Fox Road (north of the parcel). Surface water flows from the impact zone north and east through a series of shallow intermittent streams and ditches that transect the range immediately south of the 75-meter target line. This water eventually discharges to South Branch of Cane Creek northeast of Range 18, flowing further north towards Cane Creek. The overall elevation of Range 18 ranges from approximately 800 to 875 feet above mean sea level (msl) with the highest elevation at the top of the hill in the impact zone. Ground surface is flat in the firing line area with a slight downward slope to the northeast.

1.2.2 Range 20, Infiltration Course, Parcel 76Q-X

Range 20 is discussed in the EBS and the ASR. The study and safety fan areas of Range 20 are shown on Figure 1-9 and Figure 1-10, respectively. The EBS states Range 20 has been in use since 1980. Weapons fired at this range included M-60 (.308 caliber) machine gun with tracers. The EBS further reports that dynamite, trinitrotoluene, and C4 were used in explosive pits for artillery impact simulation and also could have been used in demolition training. The ASR reports that the area near Range 20 has been historically used as Old Range 27 (OA-35) which appeared on the 1958 FTMC range map as Close Combat Ranges 1 & 2. Old Range 27 included a safety fan that was similar to ranges where rifle and machine gun live fire training were conducted. Old Range 27 was abandoned in 1967. The ASR also indicates that Range 20 is constructed within the World War I Artillery Impact Area (OA-29 and OA-39). Range 20 appears on the ASR maps including Plate 6 and Plate 7.

Aerial Photographs. Although the range history indicates Range 20 was constructed in 1980, the December 1982 aerial photograph and prior photographs do not show any development or activity in this area. The February 1994 photograph and the March 1998 (Figure 1-11) confirm the known Range 20 surface features and orientation. The M-60 machine gun impact areas, denuded areas located southeast of the range are prominent in both photographs as is the presence of 15 circular pits arranged in five staggered rows north of the semicircular access road in a large area of sandy soil. This arrangement of the pits presents four separate paths leading

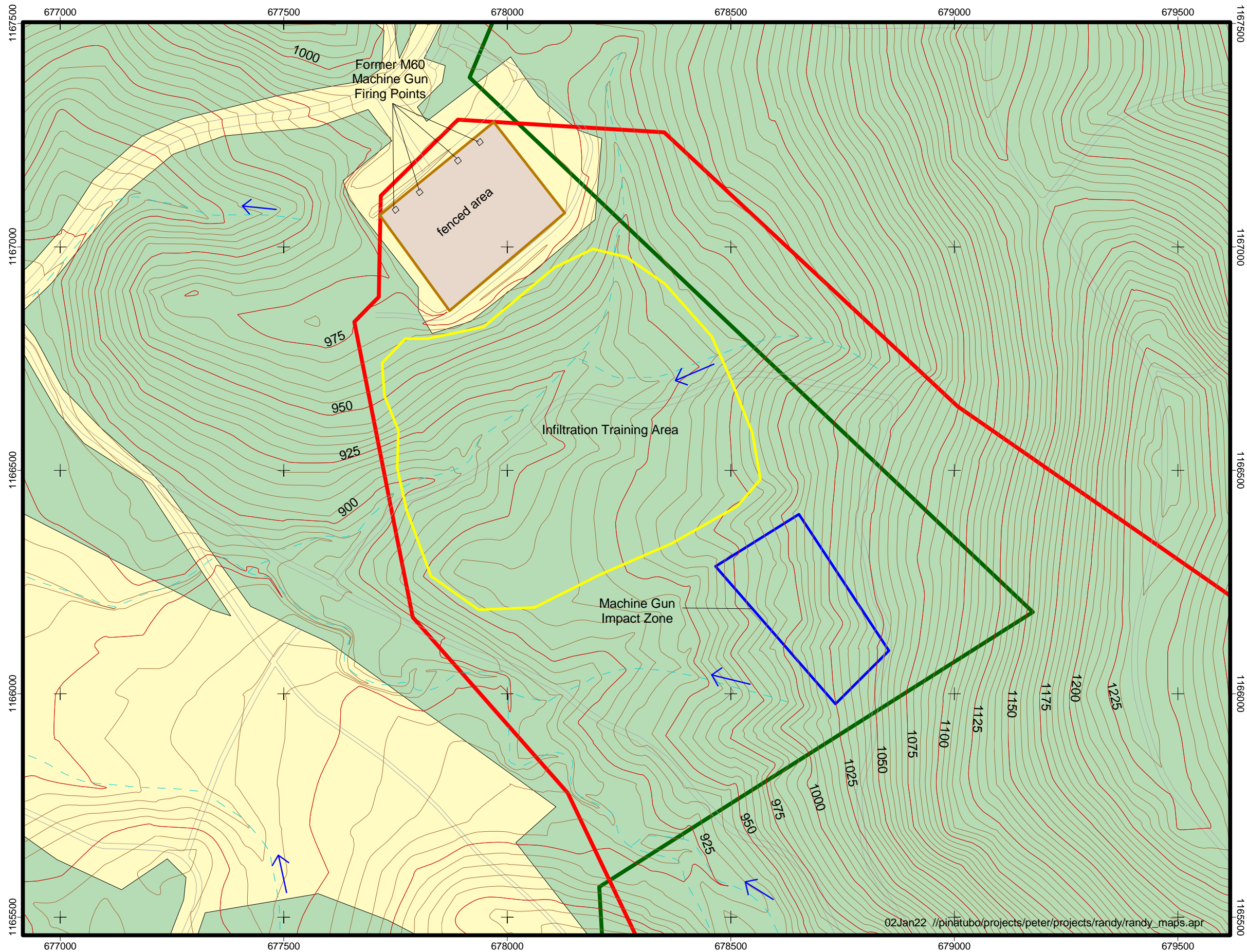


Figure 1-9

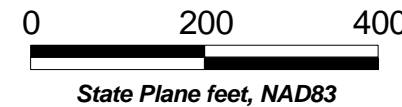
**Study Area Map
Range 20
Parcel 76Q-X**

Legend

-  Flow Direction
-  Intermittent/Surface Drainage
-  25' Contour
-  5' Contour
-  Roads
-  Infiltration Training Area
-  Range 20 Fenced Area
-  Safety Fan
-  Study Area
-  M60 Machine Gun Impact Zone
-  Woods
-  Not Wooded



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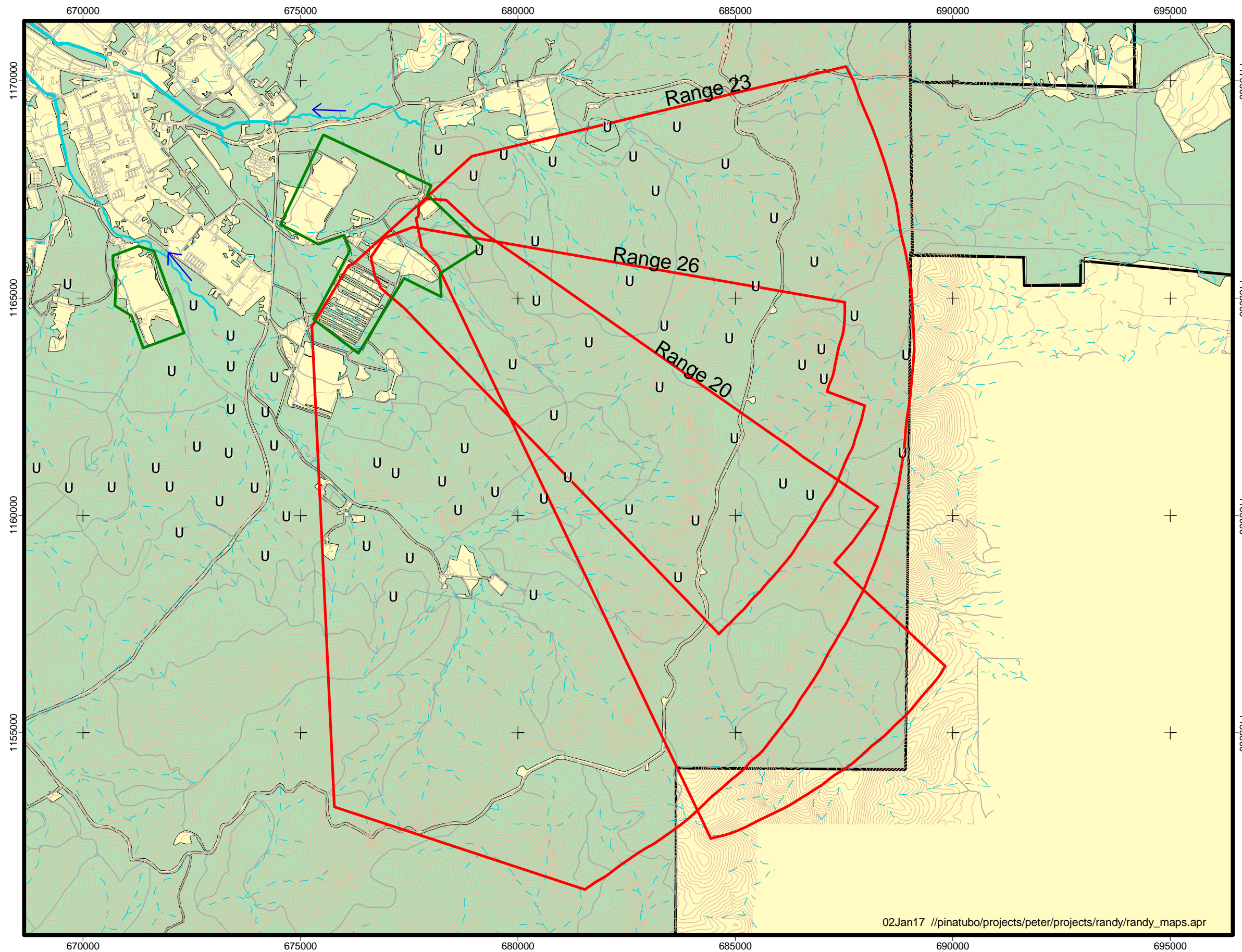
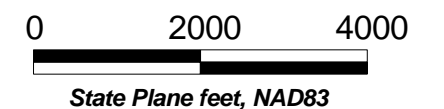


Figure 1-10

**Safety Fan Map
Range 20, Range 23,
and Range 26**

Legend

- U Former XRF Location
- Roads
- ← Flow Direction
- Creeks
- - - Intermittent/
Surface Drainage
- - - 25' Contour
- Study Area
- Safety Fan
- Woods
- Not Wooded
- FMC Boundary



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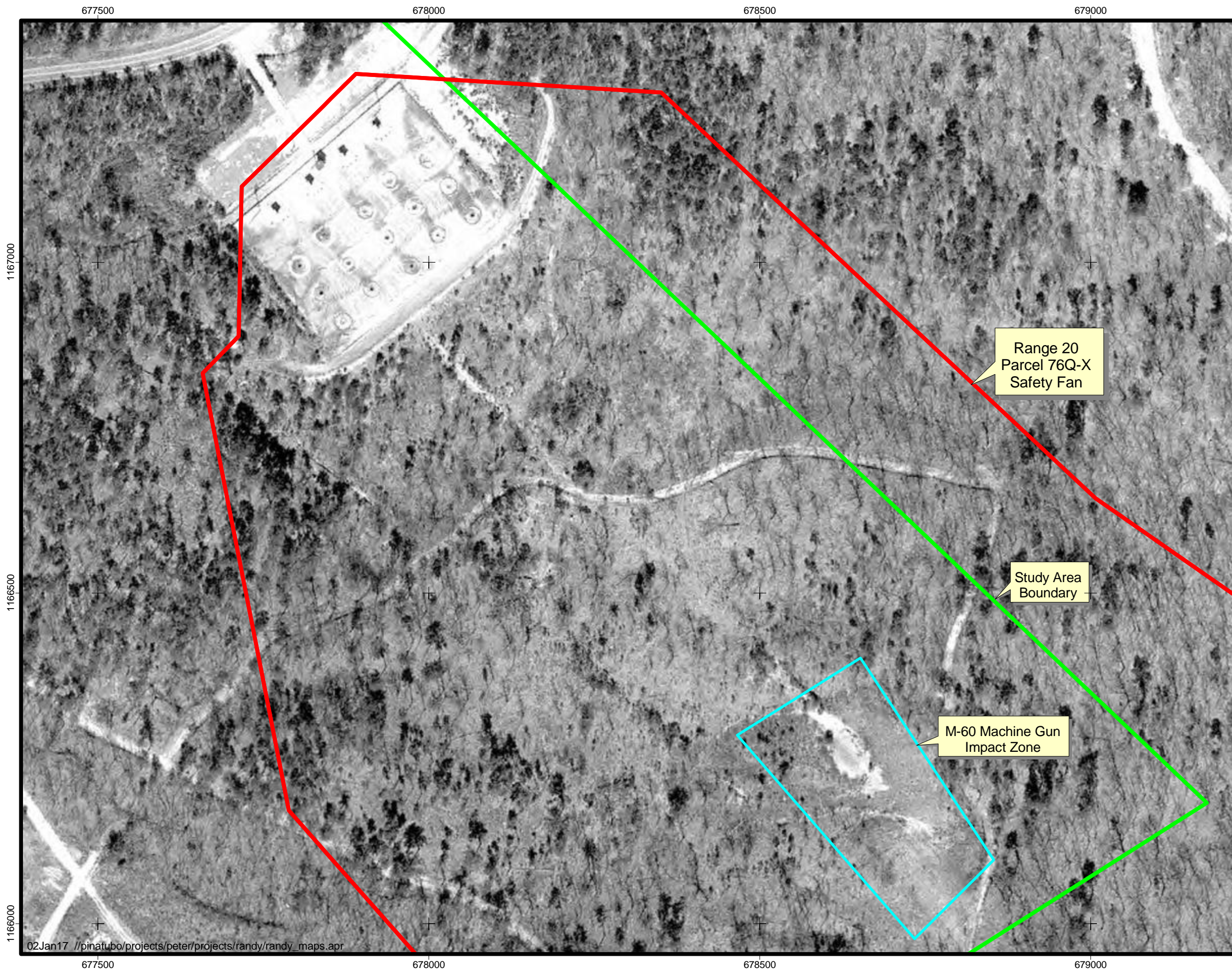
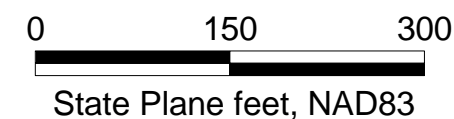


Figure 1-11

March 1998 Aerial Photograph,
Range 20, Parcel 76Q-X

Legend

-  Safety Fan
-  Study Area
-  Impact Zone



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northwest to the four machine gun firing point positions to the east and west of a central range tower. Army Regulation 350-2 (FTMC, 1991) describes the range activity showing two machine gun positions instead of the four positions visible in aerial photographs. The M-60 guns were used to provide overhead fire while explosives were used in the pits to simulate artillery impacts during maneuvers. Additional machine gun impact zones are not evident in either the 1994 or 1998 photographs.

Range Features. In September 1999 the entire area of Range 20 where the tower, machine gun firing points, and explosive pits were located was regraded. The sandy soil was removed and all of the structures were demolished. Stockpiles of removed sandy soil were composite sampled at various Calhoun County Highway Department sites. There were not any analytes of interest detected and the material was disposed of as a non-hazardous waste. This area is now used by USACE-Huntsville Center of Expertise for UXO operations and has a new 10-foot high perimeter security fence around it; therefore, no sampling will be conducted there.

The main area of investigation for Range 20 is the M-60 impact zone located approximately 1,300 feet southeast of the firing points on the northwestern face of the hillside where the target area of the four M-60 machine guns were located (Figure 1-9). Historical evidence indicates that the range orientation has always remained the same with regard to the M-60 direction of fire to the southeast, towards the northwestern slope of the unnamed hill to the east and away from the main cantonment. The impact zone, which is lacking in vegetation, is visible from the former firing line points at Range 20. The existence of additional M-60 target areas are unknown; therefore, additional visual surveys and sampling will be conducted to better define the extent of impact zone.

Personnel used the area between the M-60 impact zone and the firing point area for infiltration maneuver training. Mock vehicles, concrete pillboxes, and a mock cemetery that were used for maneuver training are found in this area. If live ammunition was fired during training, then this area could contain potential impact zone(s); therefore, further visual surveys and sampling will be conducted.

For the purposes of this EE/CA investigation, the study area (31.3 acres) extends over the entire range including the M-60 impact zone area (1.7 acres). The range safety fan (Figure 1-10) extends to the southeast covering an area of approximately 1,505 acres.

A short gravel driveway connects Range 20 to Bains Gap Road that runs northeast to southwest to the northwest of the parcel. An intermittent tributary of Ingram Creek cuts across Range 20 draining the runoff water north and west towards Cane Creek. The overall elevation of Range 20 ranges from approximately 925 to 1,200 feet msl. The lowest elevation is found near the tributary and the highest elevation is at the top of the hill in the impact zone. Ground surface is relatively flat at the M-60 firing line and explosive pit area with a 75-foot descent to the tributary in the infiltration training area and a steep 125-foot rise towards the impact zone hillside southeast of the M-60 firing lines.

1.2.3 Range 23, Trainfire (Record) Range, Parcel 79Q

Range 23 is discussed in the EBS and ASR. The study and safety fan areas of Range 23 are shown on Figure 1-12 and Figure 1-10, respectively. The EBS states Range 23 has been in use since 1951. Weapons fired at this range included M-16 automatic rifle with tracer. The EBS further reports that evidence of other artillery ordnance impact has been observed at Range 23. Specifically, base personnel have found shell fragments and an unexploded mortar round. The ASR Range 23 (OA-41) site history describes this range as starting the Inter-War period as a pistol range and later changed into rifle and machine gun training with multiple orientations and layouts utilized during this period. Further, the ASR documents that a part of this area was used in Combat Range #1 (OA-43). The ASR also points out that Range 23 is constructed within the World War I Artillery Impact Area (OA-29 and OA-39). Combat Range #1 appears on ASR maps including Inter-War Period (Plate 4) and Plate 5. Range 23 is first observed on maps Plate 6 and Plate 7.

Aerial Photographs. Aerial photographs from 1940 until through 1954 do not show any facilities or activity in the Range 23 area. What could be evidence of the Combat Range #1 may be present to the northwest, but until the November 1961 aerial photograph (Figure 1-13), no obvious changes to the Range 23 area are present. In the November 1961 photograph, the outline of the range is first visible. The range appears to be undergoing construction or redevelopment. A large clearing is present in the center of the range, but its use is unknown. The September 1964 photograph (Figure 1-14) shows a cleared area revegetating and the six distinctive narrow roads oriented northeast to southwest are present. The 1964 photograph shows extensive use of the range border road on the east side of Range 23 that implies that target mounds in the firing lanes may have been located adjacent to this road on the east side in this time. Presumably the narrow, interior range roads were used for support vehicles to access the target mounds during setup. These roads are even more clearly established in the March 1973 photograph and in the March 1998 photograph (Figure 1-15) which also show the northwest to southeast firing lanes

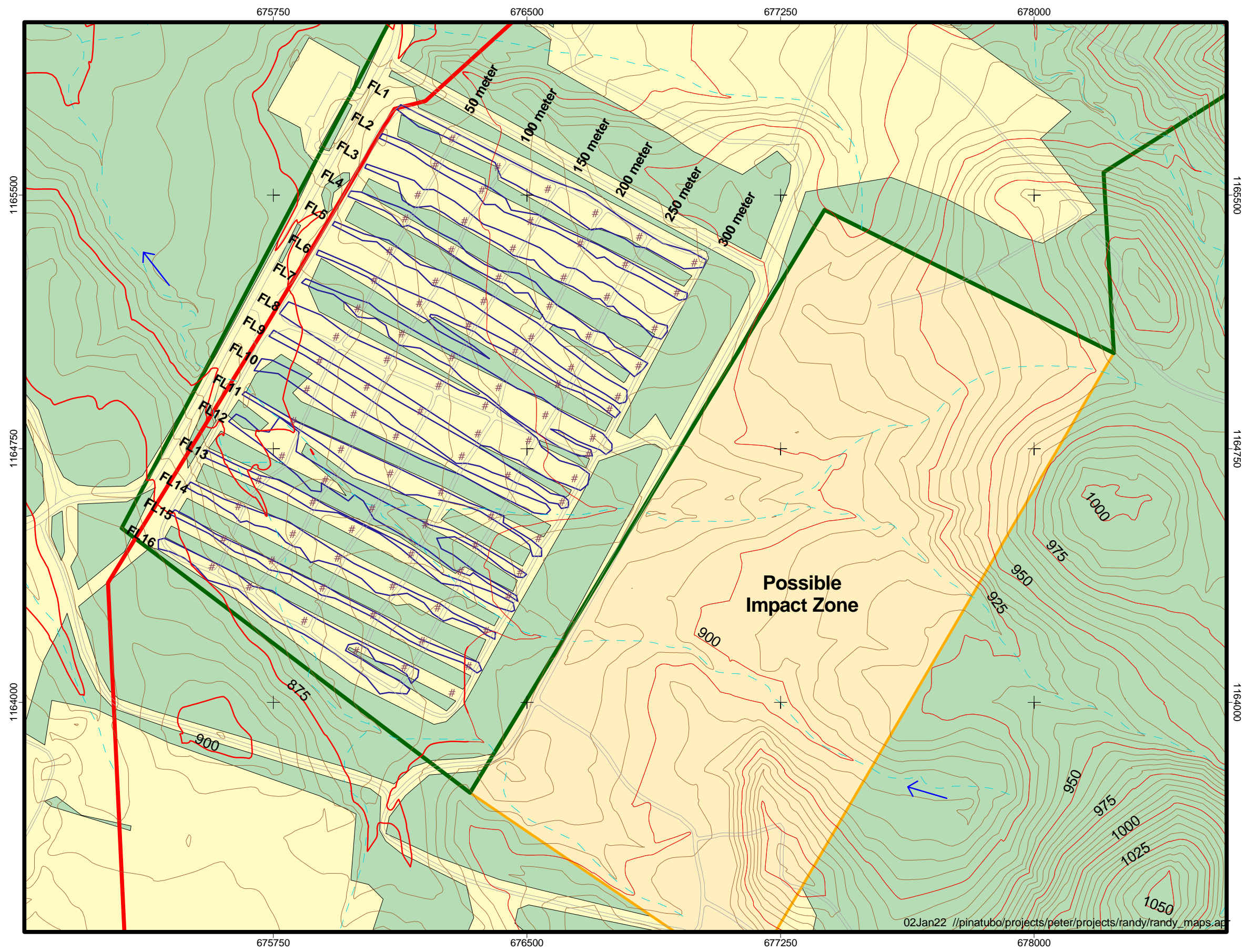


Figure 1-12
Study Area Map
Range 23
Parcel 79Q

Legend

- # Target Mound
- 25' Contour
- 5' Contour
- Roads
- ← Flow Direction
- - - Intermittent/
Surface Drainage
- ▭ Firing Lanes
- ▭ Safety Fan
- ▭ Study Area
- ▭ Possible Impact Zone
- ▭ Woods
- ▭ Not Wooded



State Plane feet, NAD83

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